ABSTRACT OF THE DISCLOSURE

Methods of inhibiting release of a proinflammatory cytokine from a macrophage are provided. The methods comprise treating the macrophage with a cholinergic

5   agonist in an amount sufficient to decrease the amount of the proinflammatory cytokine that is released from the macrophage, wherein the cholinergic agonist is selective for an $\alpha 7$ nicotinic receptor. Methods for inhibiting an inflammatory cytokine cascade in a patient are also provided. The methods comprise treating the patient with a cholinergic agonist in an amount sufficient to inhibit the inflammatory cytokine cascade, wherein

10   the cholinergic agonist is selective for an $\alpha 7$ nicotinic receptor. Methods for determining whether a compound is a cholinergic agonist reactive with an $\alpha 7$ nicotinic receptor are also provided. The methods comprise determining whether the compound inhibits release of a proinflammatory cytokine from a mammalian cell. Additionally, methods for determining whether a compound is a cholinergic antagonist reactive with

15   an $\alpha 7$ nicotinic receptor are provided. These methods comprise determining whether the compound reduces the ability of a cholinergic agonist to inhibit the release of a proinflammatory cytokine from a mammalian cell. Oligonucleotides or mimetics capable of inhibiting attenuation of lipopolysaccharide-induced TNF release from a mammalian macrophage upon exposure of the macrophage to a cholinergic agonist are

20   also provided. The oligonucleotides or mimetics consist essentially of a sequence greater than 5 nucleotides long that is complementary to an mRNA of an $\alpha 7$ receptor. Additionally, methods of inhibiting attenuation of TNF release from a mammalian macrophage upon exposure of the macrophage to a cholinergic agonist are provided. These methods comprise treating the macrophage with the above-described

25   oligonucleotide or mimetic.